



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 8, MONTANA OFFICE  
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HELENA, MONTANA 59626**

Ref: 8MO

May 28, 2013

Ms. Amber Kamps, District Ranger  
Lincoln Ranger District  
Helena National Forest  
1569 Highway 200  
Lincoln, Montana 59639

Re: CEQ 20130109; EPA comments on Stonewall Vegetation  
Project DEIS

Dear Ms. Kamps:

The Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Environmental Impact Statement (DEIS) for the Stonewall Vegetation Project prepared by the Lincoln Ranger District, Helena National Forest. EPA's review has been conducted in accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act, and the Council on Environmental Quality (CEQ) regulations, 40 CFR Parts 1500-1508. Section 309 of the Clean Air Act directs EPA to review and comment in writing on the environmental impacts of any major Federal agency action. EPA's comments include a rating of both the environmental impact of the proposed action and the adequacy of the NEPA document.

The EPA recognizes the forest health, hazardous fuels/wildfire risk, forest composition and structure, and insects/disease concerns in the Stonewall Project area, and the Helena National Forest's (HNF) need to improve vegetative conditions and move the landscape towards the desired conditions specified in the Forest Plan. Only two action alternatives were evaluated in detail in the DEIS; Alternative 2 involving treatments to approximately 36 percent of the project area, including timber harvest on a total of 3,099 acres (regeneration harvest, intermediate harvest, and precommercial thinning); 2.6 miles of new road construction; and 8,041 acres of total burning (pile burning, jackpot burning, broadcast burning, and underburning); and Alternative 3 involving treatments to approximately 27 percent of the project area, including timber harvest on 2,298 acres; 0.4 miles of new road construction; and 6,155 total acres of burning. Alternative 3 was identified as the preliminary preferred alternative in the DEIS.

The rationale for identification of Alternative 3 as the preliminary preferred alternative was not presented in the DEIS. The DEIS indicated that modifications in alternatives and/or revision in the preferred alternative may be considered for the FEIS depending on DEIS comments received and/or new information. We note that the potential environmental effects of both action alternatives were often discussed together, not disclosing many differences in environmental effects between the two action alternatives, or providing much basis for choice among the action alternatives.

On a preliminary basis, however, the EPA tends to agree with the HNF's preliminary identification of Alternative 3 as the preferred alternative, since Alternative 3 involves less new road construction than Alternative 2 (i.e., 2.2 miles less new road construction); lower amounts of timber harvest and burning (including less burning within inventoried roadless areas); and appears to involve a lesser level of impacts to habitat for threatened, endangered and sensitive species and designated critical habitat, management indicator species, big game hiding cover, thermal cover, and security cover. We encourage minimization of new road construction, since roads are often the major anthropogenic sediment source adversely affecting hydrology, water quality, and fisheries; and roads and motorized uses can also adversely affect wildlife habitat, connectivity and security, and air quality, and promote spread of weeds and cause other adverse ecological effects.

Although we also note that the higher levels of harvest and burn treatments with Alternative 2 may better meet vegetative objectives and fuel reduction/fire risk reduction objectives. Alternative 2 may also improve tree species diversity, age class diversity and tree resistance to insects and diseases more than Alternative 3 as a result of additional reductions in timber stand densities. Land management decisions involve environmental and resource management trade-offs (i.e., trade-offs in impacts among vegetation treatments, restoration of vegetative conditions, fire risk and fuels, forest health, wildlife, water quality and fisheries, air quality, weed spread, and other resource impacts). We recommend that additional discussion regarding the various trade-offs among alternatives be included in the FEIS to provide a clearer basis of choice among options for the decisionmaker and the public, and to more clearly explain the rationale for selection of the preferred alternative.

We are pleased that a relatively small amount of new roads are proposed with the action alternatives, and that these roads would be obliterated immediately following timber removal, and most new roads would be located in upland areas away from streams. We also appreciate the commitment to conduct extensive road maintenance and BMP improvements on project haul roads to reduce road sediment delivery to surface waters. Forty-eight miles of road used for Alternative 2 and 44 miles of road under Alternative 3 would receive BMP improvements (i.e., surface grading, re-establishment of drainage features -grade dips and ditch-relief culverts-, replacing undersized culverts, and application of sorted gravel at stream crossings and other sediment delivery points).

As you know segments of the Blackfoot River downstream from the project area are designated as water quality impaired and included on Montana's Clean Water Act, Section 303(d) list of impaired waters. It is important that the HNF coordinate with Montana Dept. of Environmental Quality (MDEQ) Total Maximum Daily Load (TMDL) program staff to assure that the MDEQ considers the proposed Stonewall Vegetation Project to be consistent with the Blackfoot Headwaters Sediment TMDL and Water Quality and Habitat Restoration Plan (e.g., contact MDEQ staff such as Mr. Robert Ray at 406-444-5319 and/or Mr. Dean Yashan at 406-444-5317). We also encourage review of the MDEQ's pamphlet, "*Understanding the Montana TMDL Process*," <http://deq.mt.gov/wqinfo/TMDL/default.mcp> .

The DEIS acknowledges that some sediment delivery may occur over the short-term during road construction and road maintenance, but over the long-term reductions in sediment delivery by 2 tons per

year are estimated to result from proposed road maintenance and road BMP improvements. We are pleased that a goal of no net sediment increase or preferably, a reduction in sediment delivery from current levels for the proposed project has been set for the project.

We do have some concerns regarding the adequacy of funding to properly maintain road BMPs over the long-term for roads within the Stonewall Project area. Funding for road maintenance is often limited, and there is a significant backlog of road maintenance needs on National Forests (Source: *"Rightsizing" the Forest Service Road System Part 1: Road Trend Analysis*, March 22, 2007). Older roads were often built with outdated BMPs (those dating from the 1950s to the mid-1970s) that need regularly scheduled repair and upgrading. Roads need to be routinely inspected and road BMPs evaluated in regard to their effectiveness, and BMPs improved and/or maintained as needed over time to remain effective. The DEIS states that many of the existing roads in the project area are known sources of sediment to streams and characterized as moderate-to-high-risk in the HNF Roads Analysis Process. A continuous and effective road maintenance program is needed to avoid delivery of excess road sediment to the Blackfoot River downstream.

The DEIS also states that long-term sediment reductions would result from road obliteration. However, it is not clear if any obliteration or decommissioning of existing roads is proposed. The DEIS seems to indicate that the only proposed road obliteration is the obliteration of the 2.6 miles or 0.4 miles of new temporary road proposed with Alternatives 2 and 3, respectively. It is not clear if other road decommissioning or obliteration is proposed (i.e., obliteration of existing roads). We recommend that this be clarified in the FEIS.

We fully support decommissioning of roads, since as noted above roads often impact water quality and many roads cannot be properly maintained resulting in road sediment transport to streams. Reductions in road density especially road stream crossing density has often been correlated with improved aquatic health. Lower road densities are also often associated with improved wildlife habitat, connectivity and security. In addition, there is often a relationship between higher road density and increased forest use and increased human caused fire occurrences. Reduction in road density, therefore, may also reduce risks of human caused fires, which could be important in an area with high fuels/fire risk and/or wildland/urban interface issues. We encourage the HNF to consider decommissioning existing roads that are causing resource damages and that may be difficult to maintain. We encourage closure and/or decommissioning of roads near streams with many stream crossings, since removal of these roads are more likely to have water quality benefits than closure and decommissioning of roads on upper slopes and ridges.

The DEIS indicates that three reaches of Keep Cool Creek and one reach of Beaver Creek were assessed as functioning-at-risk (FAR), yet little discussion of the causes for these FAR ratings was provided. We recommend that the causes or reasons for the "functioning-at-risk" stream reaches be discussed further in the FEIS. The DEIS states that the FAR stream segments are expected to remain in that condition under the action alternatives. If there are anthropogenic causes on National Forest lands for these FAR ratings (e.g., grazing or road management), we encourage the HNF to include additional actions to help mitigate the adverse effects on stream functions occurring in these FAR stream segments.

It also appears that some harvest units with high detrimental soil disturbance (DSD) exceeding 15% would not show a net improvement in soil quality (i.e., units 14, 15, 59, 65 would not show reductions in DSD). We recommend that additional information and/or discussion be provided in the FEIS to show how treatment units exceeding 15% DSD, with no decrease in DSD after the project, would be consistent with the Regional Soil Quality Standards, which require a net improvement in soil quality in units exceeding 15% DSD. Perhaps additional active soil restoration may be needed in such units.

Finally, it would be helpful if an improved waterbody/watershed map showing locations of all project area waterbodies in relation to proposed roads and treatment units be included in the FEIS. A clear waterbody/watershed map showing locations of all waterbodies in relation to proposed management activities was lacking in the DEIS.

The EPA's further discussion and more detailed questions, comments, and/or concerns regarding the analysis, documentation, or potential environmental impacts of the Stonewall Vegetation Project DEIS are included in the enclosure with this letter. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information). EPA concerns involve the potential for adverse environmental effects from new road construction and availability of funding to properly maintain existing and proposed new roads. We also recommend improved disclosure regarding functioning-at-risk stream segments, road decommissioning, and road locations and management activities relative to streams. A copy of EPA's rating criteria is attached. We recommend additional analysis and information to fully assess and mitigate all potential impacts of the management actions.

The EPA appreciates the opportunity to review and offer comments on the DEIS. If you have any questions please contact Mr. Philip Strobel of our NEPA Review and Compliance Group in Denver at 303-312-6704 or via e-mail at [strobel.philip@epa.gov](mailto:strobel.philip@epa.gov). Thank you for your consideration.

Sincerely,



Julie A. DalSoglio  
Director  
Montana Office

Enclosures

cc: Suzanne Bohan/Judy Roos, EPA 8EPR-N, Denver  
Dean Yashan/Robert Ray, MDEQ, Helena

## **EPA COMMENTS ON THE STONEWALL VEGETATION PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)**

### **Brief Project Overview:**

The Lincoln Ranger District, Helena National Forest (HNF), developed the Stonewall Vegetation Project to improve long-term forest health and vegetative diversity, reduce hazardous fuels, improve resilience to insects and wildfire, enhance and restore aspen, western larch, and ponderosa pine species and habitats, utilize economic value of trees, integrate restoration with socioeconomic considerations, and move the Stonewall area towards desired conditions described in the Forest Plan. The project area, consisting of approximately 24,010 acres (23,670 acres National Forest System [NFS] lands), is located approximately 4 miles north and west of the Town of Lincoln, within Lewis and Clark and Powell Counties, Montana, and includes drainages of Lincoln Creek, Beaver Creek and Keep Cool Creek all tributary to the upper Blackfoot River. No action and two action alternatives including the proposed action were evaluated in the DEIS.

Alternative 1 is the no action alternative involving no vegetative treatments and timber harvest, prescribed fire, road construction or other actions, and is evaluated to provide a baseline for comparison to the environmental consequences of the action alternatives.

Alternative 2, the proposed action, involves a total of 8,564 acres (about 36 percent of analysis area) of commercial and noncommercial treatments. Harvest treatments (regeneration harvest, intermediate harvest, and precommercial thinning) are proposed on a total of 3,099 acres (1944 acres tractor logging, 663 acres skyline cable logging, 493 acres hand thinning). Fuels treatments would follow timber removals, including slashing, pile burning, jackpot burning, and underburning. In addition to post-harvest burning, prescribed fire is also proposed within the inventoried roadless areas (IRAs) to promote ecological restoration of a mix of vegetation composition and structure across the landscape. Prescribed fire is proposed on 4,182 acres (about 0.5 percent) within the Bear Marshall Scapegoat Swan Inventoried Roadless Area and on 664 acres (about 3.8 percent) within the Lincoln Gulch Inventoried Roadless Area. Outside of the IRAs, approximately 2.6 miles of road would be built then obliterated immediately following timber removal, and 48.2 miles of road would be used. Project haul routes would be maintained and improved in accordance with BMPs to accommodate haul vehicles. Treatments proposed under alternative 2 would reduce elk hiding and thermal cover in both the Beaver Creek and Keep Cool Creek herd units, whereas the amount and distribution of forage would increase. Neither herd unit would meet Forest Plan standard 3 or 4a. This alternative would require a site-specific, nonsignificant forest plan amendment for standards 3 and 4(a) for the reductions in elk hiding cover and thermal cover. Commercial harvests would provide 22,022 CCF in sawtimber, and generate 171 jobs. Alternative 2 has the highest present net value (PNV) for the timber harvest and required design criteria at positive \$178 thousand, and negative \$1.2 million when considering all proposed activities,

Alternative 3, the preferred alternative, was developed to address scoping issues reducing potential impacts to habitat for threatened, endangered and sensitive species and designated critical habitat; management indicator species (MIS); big game hiding cover, thermal cover, and security cover.

Alternative 3 proposes a total of 6,564 acres (about 27 percent of analysis area) of commercial and noncommercial treatments. Harvest treatments (regeneration harvest, intermediate harvest, and precommercial thinning) are proposed on a total of 2,298 acres (1834 acres tractor logging, 491 acres skyline cable logging, 285 acres hand thinning). Fuels treatments would follow timber removals, including slashing, pile burning, jackpot burning, and underburning. In addition to post-harvest burning, prescribed fire is proposed within the Bear Marshall Scapegoat Swan Inventoried Roadless Area to promote ecological restoration of a mix of vegetation composition and structure across the landscape. Prescribed fire is proposed on 3,565 acres (about 0.4 percent) within the Bear Marshall Scapegoat Swan Inventoried Roadless Area. The Lincoln Gulch Inventoried Roadless Area would not be treated. Outside of the IRAs, approximately 0.4 mile of road would be built then obliterated immediately following timber, and 44.2 miles of road would be used. Commercial harvests would provide 14,299 CCF in sawtimber, and generate 118 jobs. The PNV for the timber harvest and required design criteria is positive \$68 thousand, and negative \$1.1 million for all proposed activities.

### Comments:

1. We appreciate the inclusion of clear narrative descriptions of alternatives in the DEIS providing introductory and background information; treatment descriptions; Table 8 summarizing treatments for the alternatives; maps of the action alternatives (Figures 13 and 14); Table 9 showing project design features, best management practices and mitigation; maps showing INFISH buffers (Figures 15 and 16); discussion of monitoring; alternatives considered but eliminated from detailed study; comparison of effects of the alternatives; as well as Appendices discussing public involvement, treatment descriptions/silviculture, cumulative effects, and roadless areas. The DEIS narrative, tables, maps, and Appendices facilitate improved project understanding, help define issues, and assist in evaluation of alternatives.
2. We do suggest that an improved waterbody/watershed map identifying all waterbodies and showing locations of waterbodies in relation to proposed roads and treatment units be included in the DEIS. In addition to the three main waterbodies in the project area, Lincoln, Beaver, and Keep Cool Creek, the DEIS mentions unnamed tributaries of Lincoln Creek, and Theodore, Yukon, Klondike, Stonewall, Park, Liverpool and Sucker Creeks, yet a map clearly showing the location of all these waterbodies in relation to the proposed actions was not found. Figure 83 (page 546) shows project area watersheds in relation to roads for alternative 2, but waterbodies are not identified on this map, and locations of proposed roads and treatments in relation to waterbodies for both action alternatives are not clearly shown. We recommend that the FEIS provide a clearer map showing the location of all waterbodies in the project area in relation to the proposed actions.

### Water Resources/Hydrology/Fisheries

3. We appreciate the DEIS disclosure that existing water quality concerns in the project area are mainly related to sediment delivered from roadways, and that undersized road culverts are a concern (i.e., culvert failure during flood flows could result in significant sediment delivery to streams, page 523). The DEIS states that many of the existing roads in the project area are known sources of sediment to

streams and characterized as moderate-to high-risk in the HNF Roads Analysis Process (page 537). Table 133 (page 538) shows 22 miles of roads with a high risk of sediment delivery and 33 miles of roads with a moderate risk of sediment delivery, and 41 sediment delivery points. We appreciate these disclosures regarding aquatic effects of roads. Roads and motorized uses often affect watershed conditions, water quality and fisheries in streams on National Forests. Sediment from roads, particularly during road construction, and from poorly maintained roads with inadequate road drainage and many stream crossings, is often of concern.

We are pleased that extensive road maintenance to meet State BMPs is planned for project roads to reduce road sediment delivery to surface waters, since older roads were often built with outdated management practices (those dating from the 1950s to the mid-1970s) that need repair and upgrading. Although the DEIS acknowledges that some sediment delivery may occur over the short-term during road construction and road maintenance (page 551, 564). We are also pleased that a relatively small amount of new roads are proposed with the action alternatives (0.4 miles with Alternative 3 and 2.6 miles with Alternative 2), and these roads would be obliterated immediately following timber removal. In addition, we appreciate locating roads in upland areas away from streams (page 532).

4. The DEIS states that long-term sediment reductions would result from road obliteration (page 551). However, it is not clear if any obliteration or decommissioning of existing roads is proposed. The DEIS seems to indicate that the only proposed road obliteration is the obliteration of the 2.6 miles or 0.4 miles of new temporary road proposed with Alternatives 2 and 3, respectively. Is any other road decommissioning/obliteration proposed?

We fully support decommissioning of roads, since as noted above roads often impact water quality and many roads cannot be properly maintained resulting in road sediment transport to streams. Reductions in road density especially road stream crossing density has often been correlated with improved aquatic health. We also note that lower road densities are often associated with improved wildlife habitat, connectivity and security. In addition, there is often a relationship between higher road density and increased forest use and increased human caused fire occurrences. Reduction in road density, therefore, may also reduce risks of human caused fires, which could be important in an area with high fuels/fire risk and/or wildland/urban interface issues.

We encourage the HNF to consider decommissioning existing roads that are causing resource damages and difficult to maintain. We encourage closure and/or decommissioning of roads near streams with many stream crossings, since removal of these roads are more likely to have water quality benefits than closure and decommissioning of roads on upper slopes and ridges.

5. The DEIS indicates that segments of the Blackfoot River are water quality impaired and included on Montana's Clean Water Act, Section 303(d) list of impaired waters (page 537), and it acknowledges that the Montana Dept. of Environmental Quality (MDEQ) prepared the Blackfoot River Sediment Total Maximum Daily Load (TMDL) for the river segment below the Forest boundary. It is important that Stonewall Vegetation Project activities be consistent with the Blackfoot Headwaters

Sediment TMDL and Water Quality and Habitat Restoration Plan (which can be downloaded at, <http://deq.mt.gov/wqinfo/TMDL/finalReports.mcp> ).

We are pleased that the DEIS states that mitigation measures sufficient to offset any project-related sediment delivery (from treatment units and haul routes) in the form of road BMPs and project design features have been incorporated into the project action alternatives (page 537), and that a goal of no net sediment increase or preferably, a reduction in sediment delivery from current levels for the proposed project has been set (page 538). We also appreciate the conduct of sediment/pollution source surveys and road sediment and culvert surveys for the project analysis (page 531). Table 139 (page 547) shows an estimated reduction of 2 tons of sediment delivery per year with the proposed BMP maintenance and road improvements to be carried out in action alternatives 2 and 3.

The DEIS states that 76.4 miles of NFS roads are located within the Stonewall Project area, equating to a road density of approximately 2.04 miles per square mile (page 163). Forty-eight miles of road used for Alternative 2 and 44 miles of road under Alternative 3 would receive BMP improvements (i.e., surface grading, re-establishment of drainage features -grade dips and ditch-relief culverts-, replacing undersized culverts, and application of sorted gravel at stream crossings and other sediment delivery points). We fully support proposed road BMP improvements including the new culvert to be installed where National Forest System (NFS) Road 626-B1 crosses the tributary to Lincoln Gulch; a sediment-filtering device (i.e., riprap, weed-free straw bales, filter fence, and/or slash filter windrows) at the crossing outlet; and the sediment-filtering device (i.e., weed-free straw bales, filter fence, bio-logs/waddles, and/or slash filter windrows) where NFS Road 607-E1 parallels Stonewall Creek (page 171).

We note, however, that funding for road maintenance is often limited, and there is a significant backlog of road maintenance needs on National Forests (Source: *"Rightsizing" the Forest Service Road System Part 1: Road Trend Analysis*, March 22, 2007). We often have concerns regarding the adequacy of funding to properly maintain road BMPs over the long-term, since roads need to be routinely inspected and road BMPs evaluated in regard to their effectiveness, and BMPs improved and/or maintained as needed over time to remain effective. Will adequate funding for road maintenance and implementation of road BMPs, stream crossings and drainage improvements be provided over the long-term for all roads within the Stonewall Project area?

Specific concerns regarding road BMPs include addressing road drainage and surface erosion, adequacy of waterbars, drain dips, ditch relief culverts to avoid drainage running on or along roads/trails; interception and routing of sediment to streams; unstable stream crossings and potential for washout; culvert sizing, culvert allowance of fish migration and effects on stream structure and seasonal and spawning habitats; supplies of large woody debris; road density; reducing unnecessary stream crossings; eliminating fords, armoring stream channels at stream crossings, graveling roads, reducing motorized uses in more erosive areas; road encroachment on stream, riparian, and wetland habitats; and relocating roads away from streams where possible.

We recommend that the HNF coordinate with Montana DEQ TMDL program staff to assure that the MDEQ considers the proposed Stonewall Vegetation Project to be consistent with the Blackfoot Headwaters Sediment TMDL and Water Quality and Habitat Restoration Plan (e.g., contact MDEQ staff such as Mr. Robert Ray at 406-444-5319 and/or Mr. Dean Yashan at 406-444-5317). We also encourage review of the MDEQ's pamphlet, "*Understanding the Montana TMDL Process*," <http://deq.mt.gov/wqinfo/TMDL/default.mcp> .

6. The DEIS states that three reaches of Keep Cool Creek and one reach of Beaver Creek were assessed to be functioning-at-risk (FAR) (Table 135, page 540), yet little discussion of the causes for these FAR ratings was provided. We recommend that the causes or reasons for the FAR ratings for these "at-risk" stream reaches be discussed further in the FEIS. The DEIS states that the FAR stream segments are expected to remain in that condition under the action alternatives (page 550). If there are anthropogenic causes for these FAR ratings on National Forest lands (e.g., grazing or road management), we encourage the HNF to include actions to help mitigate the adverse effects on stream functions for these at-risk stream segments in the proposed project.
7. The DEIS states that proposed roads would not develop sediment delivery points because they would be located in upland locations without hydrologic connection to any channels (page 533). Although it is later stated that proposed road segment number 5, accessing units 10 and 11, crosses a small drainage of a headwater tributary basin to Lincoln Creek (pages 537, 547), and proposed new road number 1 crosses the drainage of a headwater tributary basin to Lincoln Creek (page 547). This discussion on page 533 about roads in upland locations without hydrologic connections seems inconsistent with the later discussion regarding roads number 1 and 5 crossing drainages. Also as noted in comment #2 the location of existing and proposed roads relative to all project area streams is not clear due to lack of a good waterbody map. We recommend that an improved waterbody/watershed map showing proposed roads in relation to streams be included in the FEIS to assist in project understanding and evaluation. It would also improve disclosure if the proposed new temporary roads to be built were more clearly displayed on Figures 38 and 39 (pages 166, 169) showing roads for Alternatives 2 and 3.
8. Table 9 specifies some road design features and BMPs to mitigate adverse effects from roads. For your information we are providing some general recommendations regarding roads as follows:
  - \* minimize road construction and reduce road density as much as possible to reduce potential adverse effects to watersheds;
  - \* locate roads in uplands, away from streams and riparian areas as much as possible;
  - \* minimize the number of road stream crossings;
  - \* locate roads away from steep slopes or erosive soils and areas of mass failure;
  - \* stabilize cut and fill slopes;

- \* provide for adequate road drainage and control of surface erosion with measures such as adequate numbers of waterbars, maintaining crowns on roads, adequate numbers of rolling dips and ditch relief culverts to promote drainage off roads avoid drainage or along roads and avoid interception and routing sediment to streams;
- \* consider road effects on stream structure and seasonal and spawning habitats;
- \* allow for adequate large woody debris recruitment to streams and riparian buffers near streams;
- \* properly size culverts to handle flood events, pass bedload and woody debris, and reduce potential for washout;
- \* replace undersized culverts and adjust culverts which are not properly aligned or which present fish passage problems and/or serve as barriers to fish migration;
- \* use bridges or open bottom culverts that simulate stream grade and substrate and that provide adequate capacity for flood flows, bedload and woody debris where needed to minimize adverse fisheries effects of road stream crossings.

Blading of unpaved roads in a manner that contributes to road erosion and sediment transport to streams and wetlands should be avoided. It is important that road grading focus on reducing road surface erosion and sediment delivery from roads to area streams. Practices of expediently sidecasting graded material over the shoulder and widening shoulders and snow plowing can have adverse effects upon streams, wetlands, and riparian areas that are adjacent to roads. These practices should be avoided.

Roads are particularly vulnerable to damage during spring breakup as overly-saturated roadbeds from winter freezing are working to dry out, and this typically occurs between March 30 and June 30, but can vary depending on the severity of the winter and spring weather conditions. We encourage avoiding road use during spring breakup conditions, and closing roads to log haul during spring break up to reduce rutting of roads that increase road erosion and sediment delivery, and graveling of haul roads. Snow plowing of roads later in winter for log haul should also be avoided to limit runoff created road ruts during late winter thaws that increase road erosion (i.e., ruts channel road runoff along roads increasing erosion and sediment transport).

We encourage routine conduct of inspections and evaluations to identify conditions on roads and other anthropogenic sediment sources that may cause or contribute to sediment to streams, and to include activities in the project to correct as many of these conditions and sources as possible. Forest Service Region 1 provides training for operators of road graders regarding conduct of road maintenance in a manner that protects streams and wetlands, (i.e., Gravel Roads Back to the Basics). If there are road maintenance needs on unpaved roads adjacent to streams and wetlands we encourage utilization of such training (contact Fred Bower FS R1 Transportation Management

Engineer, at 406-329-3354).

We also note that there are training videos available from the Forest Service San Dimas Technology and Development Center for use by the Forest Service and its contractors (e.g., “Forest Roads and the Environment”-an overview of how maintenance can affect watershed condition and fish habitat; “Reading the Traveled Way” -how road conditions create problems and how to identify effective treatments; “Reading Beyond the Traveled Way”-explains considerations of roads vs. natural landscape functions and how to design maintenance to minimize road impacts; “Smoothing and Reshaping the Traveled Way”-step by step process for smoothing and reshaping a road while maintaining crowns and other road slopes; and “Maintaining the Ditch and Surface Cross Drains”-instructions for constructing and maintaining ditches, culverts and surface cross drains).

9. In regard to water yield, Table 142 (page 549) entitled “Percent estimated cumulative water yield increase over baseline conditions (%)” evidences relatively low water yield increases in the Lincoln, Beaver, and Keep Cool Creek drainages as a result of project implementation. We are pleased that the DEIS states that it is unlikely there would be a detectable cumulative increase in water yield, and that the estimated water yield increase for project watersheds would be below the DEQ-recommended threshold of 10 percent, and below the 15 percent stipulated in ARM 17.30.715. The DEIS also reported that project area streams appear to lose flow as they move from steeper areas and encounter deep valley floor sediments, further reducing risk of adverse effects from any increases in water yield (page 549). We agree that it does not appear that estimated increases in water yield would cause adverse effects (i.e., channel or bank erosion from peak flow increases).
10. Thank you for including Table 9 (pages 45-57) identifying project design features, best management practices and mitigation for the Stonewall Vegetation Project, including soil, watershed and fisheries mitigation measures. We appreciate the listing of project design features and mitigation measures to protect water quality and soils (e.g., using cable logging on steeper slopes; reusing existing skid trails where practicable; harvesting on dry, frozen or snow covered soils on sensitive sites; 100 ft distances between skid trails; placing slash on skid trails; seeding landings, scattering coarse down woody throughout harvest units, etc.).

We fully support use of appropriate BMPs to reduce water quality impacts of timber harvests, prescribed burns and road construction activities. We often suggest mitigation measures such as use of existing skid trails wherever possible; restrictions on skidding with tracked machinery in sensitive areas; using slash mats to protect soils; constructing water bars; creating brush sediment traps; adding slash to skid trail surfaces after recontouring and ripping; scarifying compacted soils prior to seeding/planting of forbs, grasses or shrubs to reduce soil erosion and hasten recovery; as well as recontouring, slashing and seeding of temporary roads and log landing areas following use to reduce erosion and adverse impacts to soils.

#### Wetlands and Riparian Areas

11. EPA considers the protection, improvement, and restoration of wetlands and riparian areas to be a high priority. Wetlands and riparian areas increase landscape and species diversity, and are critical to

the protection of designated water uses. Executive Order 11990 requires that all Federal Agencies protect wetlands. It is important that wetlands and riparian areas be properly managed to maintain and restore the health of watersheds and aquatic resources to sustain aquatic and terrestrial species and provide water of sufficient quality and quantity to support beneficial uses. Adequate riparian vegetation in stream-side areas must be maintained to stabilize streambanks and stream channels during floods and other periodic high flow events.

The DEIS states that no wetlands have been identified within the project boundaries (page 544). It is hard to believe that a project area of over 24,000 acres does not include any wetlands within the project boundaries (i.e., marsh areas, small seeps, springs, etc.). We recommend that all the treatment units be reviewed in the field to determine the presence of wetlands, and if wetlands are found that they be identified on the Sale Area Map and flagged on the ground to better assure that timber contractors will be able to avoid them.

We are pleased that Table 9 (page 52) states that for wetlands greater than one acre, the riparian habitat conservation area (RHCA) would be a minimum of 150 feet and extend to the outer limits of riparian vegetation, the extent of seasonally saturated soil, the extent of highly unstable areas, or the distance equal to the height of one site-potential tree. For wetlands less than 1 acre, the RHCA boundary would be one-half site potential tree from the edges of the stream channel, wetland, landslide, or landslide prone area, or a 50-foot slope distance, whichever is greatest. Such buffers would appear to provide adequate protection for wetlands as long as the wetlands are identified and marked on the ground and on sale area maps. We are also pleased that design feature S/WS/F-22 indicates that heavy equipment use in wetlands will be avoided (page 53), and that INFISH standards including RHCA riparian buffers would be met during the proposed project (page 563).

## Soils

12. Table 124 (page 506) shows soil characteristics in the project area, but does not identify the potential for higher erosion risks for the various soil types in the treatment units or where road work would take place. Are any of the soils, particularly soils in summer tractor harvest units or where new roads are proposed, susceptible to high erosion risk or risk of mass failure? We generally recommend avoidance of tractor timber harvest and road construction in areas with sensitive soils and/or high risk of erosion potential.
13. The DEIS states that existing detrimental soil disturbance (DSD) plus the DSD predicted for proposed activities would not exceed 15% of a given activity area, and in areas where more than 15% DSD exists from prior activities, the cumulative detrimental effects should not exceed the conditions prior to the planned activity and should move toward a net improvement in soil quality, thus, setting the threshold value for DSD at 15 % (page 509). Table 125 shows DSD exceeding 15% in some units (e.g., units 1, 12, 14, 15, 59, 65). Appendix B shows that Unit 1 involves 96 acres of regeneration harvest; Unit 12 involves 80 acres of regeneration harvest; Unit 14 involves 11 acres of intermediate harvest; Unit 15 involves 15 acres of intermediate harvest; Unit 59 involves 16 acres of intermediate harvest; and Unit 65 involves 25 acres of intermediate harvest. High DSD in units 12-

15 result from past mining activity, and high DSD in the other units are stated to result from past skid trails and landings (page 509).

Units 14, 59 and 65 would be hand thinned, and unit 1 would be harvested during winter on snow or frozen ground (Table 9). It is stated that HNF soil monitoring has shown that for traditional summer-based harvest activities in dry conditions, there is a 11.5 percent increase in DSD (9 percent from skid trails, 2.5 percent from landings); for winter-based harvest, there is a 5 percent increase in DSD (3 percent from skid trails, 2 percent from landings); for skyline harvest (page 503). It is not clear to us why harvest units 12 and 15 with existing high DSD would not also be harvested during winter on snow or frozen ground or via skyline cable to reduce the increase in DSD.

Also Table 129 (pages 520-522) shows DSD for harvest units before and after treatments and after soil restoration. This table shows unit 1 to go from 19% DSD currently to 27.1% DSD after treatments and then to 17% DSD after restoration; unit 12 goes from 18% DSD currently to 25.5 % DSD after treatments and 15.8% DSD after restoration; unit 14 remains at 30 % DSD even after restoration; unit 15 remains at 22% DSD even after restoration; unit 59 remains at 27% DSD after hand treatments; and unit 65 remains at 25% DSD after hand treatment (no restoration is shown for units 59 and 65). It is not clear how the high DSD (>15%) remaining the same before and after treatments for units 14, 15, 59 and 65 is considered to promote a move toward a net improvement in soil quality.

The DEIS indicates that for units 14 and 15 there is an ample amount of area previously disturbed that would be redisturbed by the proposed project, and then restored to show a net decrease in detrimental disturbance (page 524). However this net reduction in DSD is not shown in Table 129 for those units or for units 59 and 65. It would appear that additional active soil restoration (subsoiling or tilling) may be needed to effect an improvement in soil quality for units 14, 15, 59, and 65 to promote a reduction in DSD to show an improved trend in soil quality.

We recommend that additional information and/or discussion be provided in the FEIS to show how units exceeding 15% DSD, with no decrease in DSD after the project, including after restoration, would show a net improvement in soil quality, and thus, be consistent with the Regional Soil Quality Standard. It may be that consideration should be given to dropping harvest units with existing high DSD levels unless improved soil quality can be demonstrated (i.e., net reduction in DSD).

14. We are pleased that Table 9 shows that 5 to 20 tons per acre of coarse woody material (greater than 3-inch diameter) would be retained in harvest units for warm, dry types, and 10 to 20 tons per acre for other types following vegetation treatments. We fully support retaining adequate amounts of woody debris on-site following vegetative treatments to maintain soil productivity and for nutrient cycling.
15. While there is discussion of prior soil quality monitoring in the DEIS we did not see much discussion or disclosure relating to proposed monitoring of soils during and after the Stonewall Vegetation Project. Will HNF staff conduct soil monitoring before and after the project to verify

compliance with soil quality standards? How many sites will be monitored and evaluated for soil disturbance and compliance with soil quality standards? If no soil monitoring is proposed for the project how will compliance with soil quality standards be verified?

### Monitoring

16. We consider monitoring to be an integral part of land management. The EPA endorses the concept of adaptive management whereby effects of implementation activities are determined through monitoring (i.e., ecological and environmental effects). It is through the iterative process of setting goals and objectives, planning and carrying out projects, monitoring impacts of projects, and feeding back monitoring results to managers so they can make needed adjustments, that adaptive management works. In situations where impacts are uncertain, monitoring programs allow identification of actual impacts, so that adverse impacts may be identified and appropriately mitigated. Monitoring also allows verification and documentation of environmental effects predicted during NEPA evaluation.

EPA particularly believes that water quality/aquatics monitoring is a necessary and crucial element in identifying and understanding the consequences of one's actions, and for determining effectiveness in BMPs in protecting water quality. The achievement of water quality standards for non-point source activities occurs through the implementation of BMPs. Although BMPs are designed to protect water quality, they need to be monitored to verify their effectiveness. If found ineffective, BMPs need to be revised, and impacts mitigated. We encourage adequate monitoring budgets for conduct of aquatic monitoring to document BMP effectiveness and long-term water quality improvements associated with road BMP work and road decommissioning.

Project monitoring is discussed in DEIS Chapter 2 where it is stated that BMP monitoring will be performed periodically by the sale administrator, focusing on BMP effectiveness and on whether BMPs were applied (page 60). It is also states that the Stonewall Project area is within the Southwestern Crown Collaborative (SWCC), one of the original 10 Collaborative Forest Landscape Restoration Projects (CFLR) selected for funding where 10 percent of the CFLR funds would be allocated to monitoring. A Long-term Monitoring Plan for the SWCC is being prepared, but details of specific SWCC monitoring plans for the Stonewall project are not yet available. Soil and water are stated to be among the goals of SWCC monitoring.

We recommend that the FEIS include more detail regarding monitoring, particularly regarding water quality or aquatic monitoring to verify that the BMPs are effective as implemented to meet State water quality standards, or to validate DEIS predictions of minimal water quality impacts (e.g., if, where and when such monitoring may occur). We encourage adequate monitoring budgets for conduct of monitoring to document BMP effectiveness and effects of road construction and timber harvests, although we recognize that funding for monitoring is limited. We encourage conduct of some aquatic monitoring to document and measure water quality impacts of the activities that are implemented. We generally recommend that some aquatic monitoring be included in projects, using aquatic monitoring parameters such as channel cross-sections, bank stability, width/depth ratios,

rifle stability index, pools, large woody debris, fine sediment, pebble counts, macroinvertebrates, etc.. Biological monitoring can be particularly helpful, since monitoring of the aquatic biological community integrates the effects of pollutant stressors over time and, thus, provides a more holistic measure of impacts than grab samples.

We note that there may be PACFISH/INFISH Biological Opinion (PIBO) monitoring sites in the project area that could be used to help evaluate actual project effects (<http://www.fs.fed.us/biology/fishecology/emp/index.html>). If there are PIBO monitoring sites in the area, perhaps they may be considered for their potential to evaluate project effects.

### Air Quality

17. The Stonewall Vegetation Project action alternatives include 8,041 or 6,155 total acres of burning for Alternatives 2 and 3, respectively (page 34), including pile burning, jackpot burning, broadcast burning, and underburning. Although we note that slightly different acreage burn totals are shown in Table 51 (page 211), and on page 172 it states that prescribed burning treatment are proposed on approximately 8,560 acres. We recommend that consistent burn acreage information be presented in the FEIS, or at least clearer explanation of the various burn acreages that are disclosed. Burning would take place over a 5 to 10 year period (page 214).

The EPA supports judicious and well planned use of prescribed fire to reduce hazardous fuels and restore fire to forest ecosystems. We support the national goal reduce the risk of uncontrolled wildfire in wildland-urban interface areas. Although as is well known, smoke from fire contains air pollutants, including tiny particulates ( $PM_{10}$  and  $PM_{2.5}$ ) which can cause health problems, especially for people suffering from respiratory illnesses such as asthma or emphysema, or heart problems.  $PM_{10}$  and  $PM_{2.5}$  particles are both of concern, although  $PM_{2.5}$  is greater concern because it can penetrate into the lungs whereas larger particles (included in the coarse fraction of  $PM_{10}$ ) deposit in the upper respiratory tract. Particulate concentrations that exceed health standards have been measured downwind from prescribed burns.

In addition to health-based standards to protect ambient air quality, the Clean Air Act requires special protection of visibility in the nation's large National Parks and Wilderness Areas (identified as mandatory Class I Federal areas) and establishes a national goal for "the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I federal areas which impairment results from man-made air pollution." EPA's Clean Air Act implementing regulations require states to submit State Implementation Plans that, among other things, demonstrate attainment of the National Ambient Air Quality Standards (NAAQS), as well as reasonable progress toward the national visibility goal. Actions by Federal Land Managers that lack adequate mitigation of air quality impacts could impede a state's ability to meet Clean Air Act requirements. It is important that Project activities, when combined with air quality impacts from external sources, do not adversely impact the NAAQS or air quality related values (AQRVs) such as visibility. Although we also recognize and agree that wildfires often result in high levels of particulate emissions and the worst visibility (page 67).

The Stonewall Vegetation Project area is located in Montana/Idaho Airsheds 3B and 6 (page 205). The nearest Class I air quality areas are the Scapegoat Wilderness, 1 air mile north; the Bob Marshall Wilderness approximately 18 air miles northwest; Mission Mountain Wilderness 48 air miles northwest; Gates of the Mountains 36 air miles southeast; and the Flathead Reservation 40 air miles west of the project area (page 206). The only nonattainment areas reported in the vicinity are Lewis and Clark County for sulfur dioxide and lead. Sensitive receptors for particulates are shown in Table 49 along with their distances from the Stonewall Project area (page 209).

We appreciate the inclusion of Figure 49 (page 207) showing the locations of the Class I areas, and Figure 50 (page 213) showing the potential smoke impact area for the Stonewall Project; and Tables 52 and 53 (pages 211, 212) showing estimated PM<sub>2.5</sub> concentrations at various distances from burning activities.

We are pleased that all prescribed burning would be implemented in full compliance with the MDEQ air program and in coordination with the Montana/Idaho Airshed Group and reported to the Airshed Coordinator on a daily basis, with burning dependent upon site conditions and weather conditions (page 214). We suggest that the website for the Montana/Idaho State Airshed Group, <http://www.smokemu.org/> be displayed in the FEIS, since it may be of interest to the public.

We are also pleased that notice of the pile and prescribed burning timeframes, or burn windows, would be shared with the public through paper notices and announcements on the Forest website (page 214). This is important for residents downwind of burn areas, since even though burns will be scheduled during periods of favorable meteorological conditions for smoke dispersal, the weather can change causing smoke not to disperse as intended. This can be especially problematic for smoldering pile burns when a period of poor ventilation follows a good ventilation day.

We encourage consideration of additional disclosures when air pollutants are projected to be emitted in substantial amounts (e.g., see pages 24 - 27 of the 2010 Montana/Idaho Airshed guide found at, <http://www.smokemu.org/docs/20100601OpsGuide.pdf>); and consideration of disclosure of mitigation measures such as fugitive dust control requirements/road surfacing requirements, or use of combustion technology such as air curtain destructors, <http://www.airburners.com/principle.html>, etc.). It would be of interest to identify and discuss these other methods and their cost in comparison to pile burning.

We also recommend that the FEIS include: (1) discussion of appropriate smoke monitoring techniques and mitigation to minimize effects to nearby residents downwind of prescribed burns (including meteorological conditions favorable for mitigated prescribed fire smoke and alternatives to prescribed fire such as mechanical fuel reduction methods); (2) requirements for the incorporation of the Interagency Prescribed Fire Planning and Implementation Procedures Guide (July 2008, <http://www.nwcg.gov/pms/RxFire/rxfireguide.pdf>) into the site-specific burn plans designed for each prescribed burn conducted under this project.

The EPA also supports the beneficial use of biomass for energy recovery, or other uses that would not release biomass carbon into the atmosphere. It would be beneficial for the EIS to disclose any opportunities that might exist to utilize logging slash as a fuel for heat, electricity (or both), as well as any saleable markets for the material other than as a combustion fuel (such as novel construction materials like concrete reinforced with chipped slash, [http://www.materia.nl/575.0.html?&user\\_material%5Bmaterial\\_uid%5D=2145&cHash=b3a6a6a500](http://www.materia.nl/575.0.html?&user_material%5Bmaterial_uid%5D=2145&cHash=b3a6a6a500)). There are efforts to promote the use of available biomass waste streams such as those that will be available from projects like the Stonewall Vegetation Project, and it is therefore important for forest management decisions to be informed of all available beneficial uses for wastes generated by the project. The presentation of such information in the FEIS would also better align with national goals for increasing the availability and use of biomass as a fuel, while maintaining ecological balances necessary for the responsible use of biomass as a fuel source.

### Forest Vegetation

18. We appreciate the presentation and discussion of the treatment descriptions and effects in the 8 treatment groups. The Chapter 3 DEIS discussion of forest vegetation (pages 89-162) provides helpful information to better understand project effects on forest habitat types, stand structure and species composition, and insects and disease impacts to forest vegetation. We also appreciate the discussion of fire/fuels, fire regimes, fire behavior and fire ecology in Chapter 3 (pages 172–203). We support the need to restore fire as a natural disturbance process, and to help address competing and unwanted vegetation and fuel loads, fire risk and forest health.

While we do not oppose regeneration harvests to improve forest health and address other aspects of the project purpose and need, we often favor understory thinning from below, slashing and prescribed fire to address fuels build-up with reduced ecological impacts. We also favor retention of the larger more vigorous trees, particularly trees of desirable tree species whose overall composition may be in decline (e.g., Ponderosa pine, aspen, whitebark pine, western larch). Larger trees are generally long-lived and fire resistant, and provide important wildlife habitat. Harvest of many live mature trees could potentially increase fire risk, as well as reduce wildlife habitat. If the forest canopy is opened too much by removal of large fire resistant trees it may promote more vigorous growth of underbrush and small diameter trees that would increase fuels and fire risk in subsequent years, contrary to the fire risk reduction purpose and need. We encourage consideration for retaining the best trees (i.e., insect and disease free, growing, full crowned trees) and most desirable tree species.

We note that the DEIS indicates that both action alternatives would increase resistance to insects and diseases by increasing tree species diversity and age class diversity, reducing stocking and so increasing individual tree resistance, and modifying structures; but that Alternative 2 would reduce susceptibility to a greater degree than Alternative 3, largely because a greater area is being treated (page 161).

19. EPA supports protection of old growth habitats and maintenance or restoration of native, late-seral overstory trees and forest composition and structure within ranges of historic natural variability. Old growth stands are ecologically diverse and provide good breeding and feeding habitat for many bird and animal species, which have a preference or dependence on old growth (e.g., barred owl, great gray owl, pileated woodpecker). Much old growth habitat has already been lost, and it is important to prevent continued loss of old growth habitat and promote long-term sustainability of old growth stands, and restore where possible the geographic extent and connectivity of old growth (e.g., using passive and active management-such as avoiding harvest of old growth trees, leaving healthy larger and older seral species trees, thinning and underburning to reduce fuel loads and ladder fuels in old growth while enhancing old growth characteristics). Often lands outside the forest boundary have not been managed for the late-seral or old growth component, so National Forest lands may need to contribute more to the late-seral component to compensate for the loss of this component on other land ownerships within an ecoregion.

The DEIS states that no activities are proposed in old growth in 3<sup>rd</sup> order drainages, and all old growth would continue to develop successionally under all alternatives (page 68). About 49 percent of the Stonewall project area is stated to be within 3<sup>rd</sup>-order drainages, and 51 percent outside of these drainages (page 219). In the long term, dense forest conditions with multiple-layer stands and increasing surface fuels would support increasingly intense fire behavior and severe fire effects (page 69), and stand replacement fire would become more likely on the landscape and old growth stands more susceptible to the impacts. Some thinning and prescribed burning is proposed in old growth outside of the 3<sup>rd</sup>-order drainages in Alternatives 2 and 3 (pages 69, 236, 240), but it is stated that potential and verified old growth stands would still qualify as old growth following the proposed treatments outside 3<sup>rd</sup> order drainages, and Forest Plan requirements for old growth would be met.

For your information, we generally do not object to treatments in old growth that are intended to protect old growth characteristics, such as thinning of understory or under burning to reduce fuel loads and ladder fuels in old growth. Such treatments may lessen the threat of stand removal by a wildfire and reduce competition with other vegetation to promote more resilient, larger diameter old growth trees. Careful prescribed burning in old growth stands can reduce fuel loads and fire risk in such stands, and thus, may promote longer-term protection and sustainability of old growth stands.

### Noxious Weeds

20. Weeds are a great threat to biodiversity and can often out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Noxious weeds tend to gain a foothold where there is disturbance in the ecosystem, such as road building, logging, livestock grazing or fire activities. We are pleased that the DEIS includes a section addressing noxious weeds (pages 493 to 502); the HNF has a program to control noxious weeds (2006 HNF Noxious Weed Treatment Project); and design features to manage weed infestations are shown in Table 9 (pages 46, 47, NOX-1, NOX-2, NOX -3, NOX-4 NOX-5, NOX-6 and NOX-7).

EPA supports integrated weed management, and we encourage use of weed control measures at the earliest stage of invasion to reduce impacts to native plant communities. Weed prevention is the most cost-effective way to manage and control weeds by avoiding new infestations and spread of weeds, and thus, avoiding the need for subsequent weed treatments. We encourage tracking of weed infestations, control actions, and effectiveness of control actions in a Forest-level weed database. We note with the large amount of prescribed fire that is proposed it will be important to monitor burned areas for weed infestation. We encourage seeding of burned areas after burning to reduce risk of weed spread.

It is stated that there are approximately 564 acres of weeds mapped on National Forest System land within the Stonewall Project boundary (page 493), with the general distribution of noxious weeds in the area shown in Figure 82 (page 494). It is also stated that the HNF treats approximately one-third of its mapped weeds on an annual basis under its normal weed treatment program; therefore for this analysis it is assumed that one-third of the acres of weeds, would be treated annually (page 495), or approximately 188 acres of the 564 acres of weeds mapped in the Stonewall Project area.

While we support weed control, it is also important to recognize that herbicide use for weed control has the potential to cause adverse effects to water quality and fisheries. Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species. Montana's Water Quality Standards include a general narrative standard requiring surface waters to *be free from substances that create concentrations which are toxic or harmful to aquatic life*. We recommend that herbicide weed treatments be coordinated with the Forest botanist to assure protection to sensitive plants, and coordinated with fisheries biologists and wildlife biologists to assure that sensitive fisheries and wildlife habitat areas are protected.

Some suggestions to reduce potential water quality and fisheries effects from herbicide spraying that we didn't see listed among these weed management measures are: 1) streams and wetlands in any area to be sprayed be identified and flagged on the ground to assure that herbicide applicators are aware of the location of wetlands, and thus, can avoid spraying in or near wetlands; 2) use treatment methods that target individual noxious weed plants in riparian and wetland areas (depending on the targeted weed species, manual control or hand pulling may be one of the best options for weed control within riparian/wetland areas or close to water). We also recommend that use of picloram based herbicides (e.g., tordon) be avoided near aquatic areas, and that potentially toxic herbicides be applied at the lowest rate effective in meeting weed control objectives and according to guidelines for protecting public health and the environment.

Please also note that there may be additional pesticide use limitations that set forth geographically specific requirements for the protection of endangered or threatened species and their designated critical habitat. This information can be found at <http://www.epa.gov/espp/bulletins.htm>. You may also want to consider use of a more selective herbicide (clopyralid) in conifer associated communities to reduce impacts on non-target vegetation. We also note that spotted knapweed, which

is a prevalent noxious weed species in western Montana, is non-rhizomatous and should be relatively easy to control with lower rates of the most selective low toxicity herbicides.

For your information, the website for EPA information regarding pesticides and herbicides is <http://www.epa.gov/pesticides/> . The National Pesticide Telecommunication Network (NPTN) website at <http://nptn.orst.edu/tech.htm> which operates under a cooperative agreement with EPA and Oregon State University and has a wealth of information on toxicity, mobility, environmental fate on pesticides that may be helpful (phone number 800-858-7378).

21. Weed seeds are often transported by wind and water, animal fur, feathers and feces, but primarily by people. The greatest vector for spread of weeds is through motorized vehicles-cars, trucks, ATVs, motorcycles, and even snowmobiles. Weed seeds are often caught on the vehicle undercarriage in mud and released on the Forest. A single vehicle driven several feet through a knapweed site can acquire up to 2,000 seeds, 200 of which may still be attached after 10 miles of driving (Montana Knapweeds: Identification, Biology and Management, MSU Extension Service).

We believe an effective noxious weed control program should consider restrictions on motorized uses, particularly off-road uses, where necessary. Off-road vehicles travel off-trail, disturbing soil, creating weed seedbeds, and dispersing seeds widely. Restrictions on motorized uses may also be needed after burning and harvest activities until native vegetation is reestablished in the disturbed areas to reduce potential for weed infestation of the disturbed sites. Weed seed dispersal from non-motorized travel is of lesser concern because of fewer places to collect/transport seed, and the dispersal rate and distances along trails are less with non-motorized travel.

#### Wildlife/T&E Species

22. The Stonewall Project area is rich in wildlife resources. The DEIS indicates that several threatened endangered (T&E) species occur in the Stonewall Project area (i.e., grizzly bear, Canada lynx and wolverine (a proposed species)), as well as several sensitive and federal candidate species and management indicator species (MIS) (pages 70, 240-475). In regard to effects of both action alternatives on T&E species it is stated that alternatives, “*may affect, but are not likely to adversely affect*” the threatened grizzly bear, Canada lynx and its critical habitat, and “*would not jeopardize*” the wolverine (pages 72-73). It is also stated that both action alternatives, “*may affect, but are not likely to adversely affect*” the threatened bull trout (page 566).

If it is found that the finally selected project alternative may adversely affect any T&E species, we recommend that the final EIS include the associated USFWS Biological Opinion or formal concurrence for the following reasons:

- (a) NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made;
- (b) The CEQ Regulations for Implementing the Procedural Provisions of NEPA strongly

encourage the integration of NEPA requirements with other environmental review and consultation requirements so that all such procedures run concurrently rather than consecutively (40 CFR 1500.2(c) and 1502.25); and

(c) The Endangered Species Act (ESA) consultation process can result in the identification of reasonable and prudent alternatives to preclude jeopardy, and mandated reasonable and prudent measures to reduce incidental take. These can affect project implementation.

Since the Biological Assessment and EIS must evaluate the potential impacts on listed species, they can jointly assist in analyzing the effectiveness of alternatives and mitigation measures. If T&E species are subsequently identified in the project area, EPA recommends that the final EIS and Record of Decision not be completed prior to the completion of ESA consultation. If the consultation process is treated as a separate process, the Agencies risk USFWS identification of additional significant impacts, new mitigation measures, or changes to the preferred alternative.

23. The DEIS includes helpful discussion regarding availability of snags for cavity nesting species such as pileated and black-backed woodpeckers and flammulated owls (page 68, 215-240). It is stated that snag numbers are currently very high (i.e., ~40 snags per acre, page 220), and snag numbers would remain high over the short-term due to insect related tree mortality, but in the long-term snag numbers would decline greatly as snags fall down. It further states that Alternative 2 treatments would reduce snag levels to the Forest Plan requirements within the treatment units, and prescribed burns would increase snag levels within the burn units. After the treatments snag levels would slightly increase in the project area, and would exceed 19 times the Forest Plan requirements. Under Alternative 3, treatments would reduce snag levels to the Forest Plan requirements within treatment units, and prescribed burns would increase snag levels with burn units. Project design features shown in Table 9 identify protections to retain adequate snag habitat (e.g., WL-4, WL-6, WL-7, WL-15).

We are pleased that after the treatments snag levels would slightly increase in the project area, and would exceed 20 times the Forest Plan requirements (pages 236, 240), and that the DEIS concludes that both action alternatives “*may impact individuals, but are not likely to result in a trend towards federal listing*” for sensitive cavity nesting species (black-backed woodpeckers and flammulated owls) (page 74-75), and would “*not likely to cause a local or regional change in habitat quality or population status*” for pileated or hairy woodpeckers (page 76).

24. Biodiversity may be an important consideration for new projects or when special habitats (i.e., wetlands, threatened and endangered species habitat) will be affected. The state of the art for this issue is changing rapidly. We are pleased that biodiversity of plants and animals is one of the monitoring priorities for the Southwestern Crown Collaborative (page 61). We recommend that potential project impacts on biodiversity be at least briefly evaluated and discussed in the FEIS. CEQ prepared guidance entitled, “Incorporating Biodiversity Considerations Into Environmental Impact Analysis Under the National Environmental Policy Act,” [http://ceq.hss.doe.gov/publications/incorporating\\_biodiversity.html](http://ceq.hss.doe.gov/publications/incorporating_biodiversity.html).

## Climate Change

25. The DEIS includes some discussion regarding climate change effects (pages 90, 216, 245, 483). We encourage inclusion of climate change information in NEPA documents, since it contributes to improved public understanding of the effects of climate change on forest ecosystems and forest management, particularly the effects of hotter and drier conditions in stressing trees, increasing the frequency of bark beetle outbreaks, and allowing bark beetles to move northward or higher in elevation and into other ranges of their hosts or the ranges of new potential hosts. Climate change research indicates that earth's climate is changing, and that the changes will accelerate, and that human greenhouse gas (GHG) emissions, primarily carbon dioxide emissions (CO<sub>2</sub>), are the main source of accelerated climate change (United Nations Intergovernmental Panel on Climate Change (IPCC), <http://www.ipcc.ch/>). We often encourage inclusion of a specific section in the NEPA document to discuss and present climate change information and effects to further emphasize the importance of this topic to the public.

Forest Service guidance on how to consider climate change in project-level NEPA documents can be found at, [http://www.fs.fed.us/emc/nepa/climate\\_change/includes/cc\\_nepa\\_guidance.pdf](http://www.fs.fed.us/emc/nepa/climate_change/includes/cc_nepa_guidance.pdf), and suggests EIS analysis and disclosure of the following:

- **The effect of a proposed project on climate change.** (GHG emissions and carbon cycling). Examples include: short-term GHG emissions and alteration to the carbon cycle caused by hazardous fuels reduction projects, and avoiding large GHG emissions pulses and effects to the carbon cycle by thinning overstocked stands to increase forest resilience and decrease the potential for large scale wildfire.
- **The effect of climate change on a proposed project.** Examples include: effects of expected shifts in rainfall and temperature patterns on the seed stock selection for reforestation after timber harvest and effects of changed stream hydrographs due to earlier snowmelts.

Climate change appears to be a factor influencing some bark beetle outbreaks. Temperature influences everything in a bark beetle's life, from the number of eggs laid by a single female beetle, to the beetles' ability to disperse to new host trees, to individuals' over-winter survival and developmental timing. Elevated temperatures associated with climate change, particularly when there are consecutive warm years, can speed up reproductive cycles and reduce cold-induced mortality. Shifts in precipitation patterns and associated drought can also influence bark beetle outbreak dynamics by weakening trees and making them more susceptible to bark beetle attacks, (<http://www.fs.fed.us/ccrc/topics/bark-beetles.shtml>). Insect attacks are likely to intensify in severity, frequency, and size due to climate change. Climate change may also increase stress to ponderosa pine seedlings, and affect the ability of ponderosa pine and other species to prosper through time, and may have added to stress factors leading or affecting the current bark beetle attacks.

Wildland fire frequency has increased in the west and altered fire regimes over the last twenty years due to climate change. More frequent fires are currently burning for extended periods of time (average of 5 weeks) compared to the infrequent fires lasting less than one week that were common prior to the mid-1980s. Large wildfire activity increased in the 1980s, with higher large fire frequency, longer wildfire durations, and longer wildfire seasons; with the greatest increases occurring in mid-elevation.

EPA Region 8 suggests a general four step approach to address climate change in NEPA documents that appears consistent with the Forest Service guidance.

- Briefly discuss the link between greenhouse gases (GHGs) and climate change, and the potential impacts of climate change, (see <http://www.epa.gov/climatechange/> , <http://www.fs.fed.us/ccrc/> , <http://www.ipcc.ch/> ).
- Describe the capacity of the proposed action to adapt to projected climate change effects, including consideration of future needs.
- Characterize, quantify and disclose the expected annual cumulative emissions of GHGs attributable to the project, using annual CO<sub>2</sub>-equivalent as a metric for comparing the different types of GHGs emitted. It is suggested that the project's emissions be described in the context of total GHG emissions at regional, national and global scales (over the lifetime of the project).
- Discuss potential means to mitigate project-related emissions as appropriate pursuant to CEQ regulations (40 CFR Sections 1502.14(f), 1502.16(h), 1508.14).

### Roadless

26. The DEIS indicates that the Stonewall project area includes portions of two inventoried roadless areas (IRAs), the Bear-Marshall-Scapegoat-Swan IRA (#A1485) and the Lincoln Gulch IRA (#1601). The portion of the BMSS IRA managed by the Lincoln Ranger District of the Helena National Forest is 53,995 acres in size and the project area overlaps with 12,254 acres (page 587). The Lincoln Gulch IRA is 8,246 acres in size and the project area overlaps with 3,193 acres (Table 152 and Figure 86).

Roadless areas often provide population strongholds and key refugia for listed or proposed species and narrow endemic populations due to their more natural undisturbed character. EPA supports protection of the pristine character and integrity of remaining minimally disturbed roadless areas to prevent further fragmentation and degradation of wildlife habitat, and to maintain or restore solitude and primitive recreation characteristics in such areas.

The DEIS indicates that the only actions proposed within the BMSS and Lincoln Gulch IRAs are construction of fire handlines, hand slashing of small diameter trees and prescribed fire (page 596). Commercial harvest and road construction would not occur in the two roadless areas. Alternative 2 includes prescribed fire on 4,182 acres (about 0.5 percent) within the BMSS IRA and on 664 acres (about 3.8 percent) within the Lincoln Gulch IRA. Table 154 (page 597, 598) shows proposed

treatments within IRAs for Alternative 2 (i.e., units 76-77, 79-88).

Alternative 3 includes prescribed fire on 3,565 acres (about 0.4 percent) within the BMSS IRA, and no fire or slashing of trees in the Lincoln Gulch IRA. Burn units 76 and 77 are removed from the Lincoln Gulch IRA and unroaded lands contiguous to the IRA. The mixed severity prescribed fire proposed for unit 80 in Alternative 2 is changed to unit 80a, Jackpot burn in Alternative 3; and units 81 and 86 of mixed severity prescribed fire are removed from the Bear-Marshall-Scapegoat-Swan IRA and unroaded contiguous lands in Alternative 3 (page 599).

We do not object to prescribed burning in roadless areas that would benefit the resiliency and long-term health of vegetative communities and reduce risk of catastrophic wildfire and improve wildlife habitat. We are pleased that the DEIS states that both action alternatives will protect and maintain the natural integrity and characteristics of roadless areas, although it would appear that less impacts to roadless areas may occur with Alternative 3 (pages 599-600).

# **U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements**

## **Definitions and Follow-Up Action\***

### **Environmental Impact of the Action**

**LO - - Lack of Objections:** The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**EC - - Environmental Concerns:** The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

**EO - - Environmental Objections:** The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**EU - - Environmentally Unsatisfactory:** The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

### **Adequacy of the Impact Statement**

**Category 1 - - Adequate:** EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2 - - Insufficient Information:** The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

**Category 3 - - Inadequate:** EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

